CLAIMS

1. In a wireless communications system, a method for preventing degradations in channel performance caused by puncturing information bits of uncertain sign into an otherwise continuous pilot channel comprising:

reconstructing a non-punctured pilot channel of predetermined sign from information symbols of uncertain sign punctured into a sequence of pilot channel symbols of predetermined sign to produce a continuous sequence of pilot symbols; and

improving the channel performance by increasing the signal to noise ratio of a channel phase estimate by using only the reconstructed continuous sequence of pilot symbols to calculate a channel phase estimate.

2. In a wireless communication system, a method of reverse link power control, comprising:

reconstructing a non-punctured pilot channel of predetermined sign from information symbols of uncertain sign punctured into a sequence of pilot channel symbols of predetermined sign to produce a continuous sequence of pilot symbols;

summing the energy value with at least one additional calculated energy value to produce a combined energy value;

comparing the combined energy value to a threshold in a threshold comparator;

outputting a reverse link power control decision based on the threshold comparison.

3. The method of claim 2 wherein the energy calculator calculates the energy value for the pilot symbols by computing the energy estimate of the information symbols and the pilot symbols, and combining the estimates over all fingers of a rake receiver in lock.

4. A method for determining when a finger of a rake receiver is in lock, comprising:

reconstructing a non-punctured pilot channel of predetermined sign from information symbols of uncertain sign punctured into a sequence of pilot channel symbols of predetermined sign to produce a continuous sequence of pilot symbols;

providing the pilot symbols to an energy calculator to calculate an energy value for the pilot symbols;

inputting the calculated energy value to a received signal strength indicator filter to integrate the energy value over a predetermined time period, producing an integrated energy value;

comparing the integrated energy value to a predetermined threshold in a threshold comparator; and

generating a finger lock decision based on the threshold comparision.

5. In a wireless communication system, a method for generating an accurate frequency estimate, comprising:

reconstructing a non-punctured pilot channel of predetermined sign from information symbols of uncertain sign punctured into a sequence of pilot channel symbols of predetermined sign to produce a continuous sequence of in-phase and quadrature-phase pilot symbols;

delaying the in-phase and quadrature-phase pilot symbols by a predetermined amount;

calculating a cross product of the in-phase and quadrature-phase pilot symbol to produce in-phase and quadrature-phase frequency error estimate signals; and

masking the frequency error estimate signal out of a frequency estimate;